

RECEIVED 30 MAR 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
22 April 2004 (22.04.2004)

PCT

(10) International Publication Number  
WO 2004/033699 A1

- (51) International Patent Classification<sup>7</sup>: C12P 7/42, 7/62, 7/22, 13/02
- (21) International Application Number: PCT/EP2003/010967
- (22) International Filing Date: 2 October 2003 (02.10.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 02405869.5 10 October 2002 (10.10.2002) EP
- (71) Applicant (for all designated States except US): CIBA SPECIALTY CHEMICALS HOLDING INC. [CH/CH]; Klybeckstrasse 141, CH-4057 Basel (CH).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): ÖHRLEIN, Reinhold [DE/DE]; Bahnhofstrasse 68A, 79618 Rheinfelden-Herten (DE). BAISCH, Gabriele [DE/DE]; Baselstrasse 20, 79589 Binzen (DE). SCHÖNING, Kai-Uwe [DE/CH]; Bienenstrasse 6, CH-4104 Oberwil (CH). HARTWIG, Jemima [DE/DE]; Gündenhäusen 13, 79650 Schopfheim (DE). MAYER, Sandra, Franziska [AT/AT]; Kernstockgasse 32, A-8753 Hetzendorf (AT).
- (74) Common Representative: CIBA SPECIALTY CHEMICALS HOLDING INC.; Patentabteilung, Klybeckstrasse 141, CH-4057 Basel (CH).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
- with international search report
  - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



WO 2004/033699 A1

(54) Title: PROCESS FOR THE PREPARATION OF PHENOLIC CARBOXYLIC ACID DERIVATIVES BY ENZYMATIC CATALYSIS

(57) Abstract: The present invention relates to an improved process for the preparation of phenolic carboxylic acid derivatives catalysed by biocatalytic esterification, transesterification or amidation of a corresponding lower alkyl ester. Biocatalysis is performed in the presence of suitable enzymes, e.g. hydrolases, especially esterases, amidases, lipases and proteases.